



DESIGN STRESSES

NEW & EXISTING CONSTRUCTION

f'_o = 5,000 psi

FIELD UNITS $f_c' = 3,500 \ psi$ fy = 60,000 psi (reinforcement)

f'ci = 4,000 psi

= 270,000 psi (1/2" \$\phi\$ low relax strands)

PRECAST PRESTRESSED UNITS

 $f_{si} = 201,960 \text{ psi } (1/2'' \phi \text{ low relax strands})$

4" Min. Top of Concrete Top of Beam Overlay -Fnd of Ream (Tvp.) $1_4^{\prime\prime}$ Camber (Typ. 47" or 48" Beams) $1_8^{\prime\prime}$ Camber (Typ. 35" or 36" Beams) * Match existing deck surface

ANTICIPATED INITIAL CAMBER DIAGRAM

PLAN

INDEX OF SHEETS

General Plan and Flevation Beam Details - Beams 6, 12, 15 & 21

Beam Details - Beams 9 & 26

Superstructure Details I

Superstructure Details II

Sections and Details

Pier Repair Details

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal of Existing Precast Prestressed Concrete Deck Beams	Sq. Ft.	794
Concrete Removal	Cu. Yd.	7.7
Precast Prestressed Concrete Deck Beams (17'' Depth)	Sq. Ft.	777
Concrete Superstructure	Cu. Yd.	4.6
Reinforcement Bars, Epoxy Coated	Pound	2130
Concrete Wearing Surface, 4"	Sq. Yd.	106.9
Concrete Sealer	Sq. Ft.	15
Asbestos Bearing Pad Removal	Each	8
Mechanical Splice	Each	443
Floor Drain Extension	Each	2
Protective Coat	Sq. Yd.	122
Structural Repair of Concrete (Depth Equal to or Less Than 5 in.)	Sq. Ft.	7
Furnishing and Erecting Structural Steel	Pound	116

GUTE NO.	SECTION	cat	INTY	TOTAL SHEETS	SHEET NO.	SHEET	NO.	1
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Contract # 64237 * (16, 17, 18) RS-3 & (16BR) M-1

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

Concrete Sealer shall be applied to the seat area of the West Abutment under Beams 6 and 9.

The contractor is advised that the existing P.P.C. Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.

Any damage done to the bridge during beam removal shall be repaired by the Contractor at the Contractor's expense.

If the contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on new beams, detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new beams. To distribute load to multiple beams and protect the concrete, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. Prior to placement of the timber mats the following shall be done: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys. A temporary means of lateral restraint will be required for fascia beams at expansion ends of beams to prevent movement of beams.

The minimum thickness of the concrete overlay shall be 4" and varies as required to adjust for the beam camber.

The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A 780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to the manufacture's specifications prior to another coat of zinc. A concrete sealer meeting the requriements of Section 587 of the Standard Specifications shall be applied to the exterior face and 9" in on the underside of the outside of beam #9. The sealer shall be applied after visible crack growth has subsided. The sealer shall be performed by the producer and included with the cost of the beam.

All Structural Steel shall be shop painted with the inorganic zinc rich primer per AASHTO M 300, Type I. Cost included with Furnishing and Erecting Structural Steel.

No in-stream work will be allowed on this project.

Repair of the pier caps shall be completed prior to placement of the new deck

Existing Name Plate shall be removed, cleaned, and replaced back in its current position. Cost included with Concrete Removal.

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.



ILLINOIS DEPARTMENT OF TRANSPORTATION

ringroup

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GENERAL PLAN AND ELEVATION U.S. ROUTE 52 OVER ELKHORN CREEK FAS RTE 2079 - OGLE COUNTY SECTION (16, 17, 18) RS-3 & (16BR)M-1 STATION 971+50.04 STRUCTURE NO. 071-0070

DATE: 9/18/2007

DRAWN BY CHECKED BY